

Comparisons of Job Characteristics

Focus Occupation: [Computer and Information Scientists, Research \(15-1011\)](#)

Associated Occupation: [Computer Science Teachers, Postsecondary \(25-1021\)](#)

[Compare Knowledge](#)

[Compare Skills](#)

[Compare Abilities](#)

[Compare Detailed Work Activities](#)

[Compare Tools and Technologies](#)

<<	Focus occupation element is much lower
<	Focus occupation element is lower
0	Focus occupation element is at a similar level
>	Focus occupation element is at a higher level
>>	Focus occupation element is at a much higher level

Knowledge

Similarity of Focus Occupation to Associated Occupation: 96

Focus Occupation: Computer and Information Scientists, Research (15-1011)
Associated Occupation: Computer Science Teachers, Postsecondary (25-1021)

Associated Occupation's Key Knowledge Elements	Average Rating, All Occupations	Associated Occupation's Rating	Focus Occupation's Rating	Evaluation of Focus Occupation
Computers and Electronics	8.4	22.6	22.8	0 Current knowledge level may be sufficient
Education and Training	9.2	21.7	16.8	<< Extensive education and/or training may be required
English Language	11.2	18.2	16.6	0 Current knowledge level may be sufficient
Mathematics	9.2	16.5	18.3	> Current knowledge level is likely sufficient
Telecommunications	3.9	11.7	11.9	0 Current knowledge level may be sufficient
Communications and Media	5.3	9.6	9.3	0 Current knowledge level may be sufficient

The maximum possible rating is 25.

Source: Alaska Department of Labor and Workforce Development, Research and Analysis Section analysis of O*NET (Occupation Information Network) data.

Skills

Similarity of Focus Occupation to Associated Occupation: 64

Focus Occupation: Computer and Information Scientists, Research (15-1011)
Associated Occupation: Computer Science Teachers, Postsecondary (25-1021)

Associated Occupation's Key Skills Elements	Average Rating, All Occupations	Associated Occupation's Rating	Focus Occupation's Rating	Evaluation of Focus Occupation
Speaking	10.8	17.4	12.3	<< Extensive development of skills in this area may be required
Reading Comprehension	10.7	16.2	13.0	<< Extensive development of skills in this area may be required
Instructing	7.8	15.1	8.1	<< Extensive development of skills in this area may be required
Writing	9.2	15.1	12.0	<< Extensive development of skills in this area may be required
Active Learning	8.7	14.1	13.3	0 Current skill level may be sufficient
Critical Thinking	10.8	14.1	13.3	0 Current skill level may be sufficient

Learning Strategies	7.2	13.5	8.7	<<	Extensive development of skills in this area may be required
Complex Problem Solving	9.1	12.6	13.2	0	Current skill level may be sufficient
Time Management	8.9	11.9	12.2	0	Current skill level may be sufficient
Systems Analysis	6.5	10.7	13.6	>>	Skill level is likely more than sufficient
Programming	2.2	5.8	12.4	>>	Skill level is likely more than sufficient

The maximum possible rating is 25.

Source: Alaska Department of Labor and Workforce Development, Research and Analysis Section analysis of O*NET (Occupation Information Network) data.

Abilities		Similarity of Focus Occupation to Associated Occupation: 89			
Focus Occupation: Computer and Information Scientists, Research (15-1011) Associated Occupation: Computer Science Teachers, Postsecondary (25-1021)					
Associated Occupation's Key Abilities Elements	Average Rating, All Occupations	Associated Occupation's Rating	Focus Occupation's Rating	Evaluation of Focus Occupation	
Oral Expression	12.4	18.9	13.4	<<	Extensive improvement in abilities may be required
Speech Clarity	10.2	17.5	9.5	<<	Extensive improvement in abilities may be required
Written Comprehension	11.0	16.7	13.1	<<	Extensive improvement in abilities may be required
Oral Comprehension	12.5	16.5	13.4	<	Some improvement in abilities may be required
Written Expression	9.8	14.9	12.0	<	Some improvement in abilities may be required
Deductive Reasoning	10.6	14.5	14.6	0	Current ability level may be sufficient
Inductive Reasoning	10.2	13.5	14.1	0	Current ability level may be sufficient
Information Ordering	9.9	12.1	12.6	0	Current ability level may be sufficient
Memorization	5.6	7.8	6.9	<	Some improvement in abilities may be required

The maximum possible rating is 25.

Source: Alaska Department of Labor and Workforce Development, Research and Analysis Section analysis of O*NET (Occupation Information Network) data.

Activities that Both Occupations Have in Common		Similarity of Focus Occupation to Associated Occupation: 98
Focus Occupation: Computer and Information Scientists, Research (15-1011) Associated Occupation: Computer Science Teachers, Postsecondary (25-1021)		
Work Activities	Exclusivity of Activity	
Advise governmental or industrial personnel	28	
Direct and coordinate scientific research or investigative studies	27	
Explain complex mathematical information	30	
Follow data security procedures	77	
Follow data storage procedures	75	
Program mainframe computer	84	

Resolve symbolic formulations in data processing applications	89
Use computer application flow charts	84
Use computer networking technology	81
Use computer programming language	82
Use differential equations in computer programming	95
Use geographical information system (GIS) software	72
Use knowledge of mainframe computers	78
Use mathematical or statistical methods to identify or analyze problems	30
Use object-oriented computer programming techniques	85
Use oral or written communication techniques	1
Use public speaking techniques	13
Use relational database software	26
Use structural analysis techniques to analyze computer systems	89
Write research or project grant proposals	33
Write scholarly or technical research papers	36

Not all positions in these occupations will necessarily perform all of the listed activities. The exclusivity rating is an indication of how unique the activity is amongst all occupations. The maximum rating is 100. High scores indicate that only a small number of occupations engage in that activity.

Source: Alaska Department of Labor and Workforce Development, Research and Analysis Section analysis of O*NET (Occupation Information Network) data.

Tools and Technologies that Both Occupations Have in Common

Similarity of Focus
Occupation to Associated
Occupation: n/a

Focus Occupation: Computer and Information Scientists, Research (15-1011)
Associated Occupation: Computer Science Teachers, Postsecondary (25-1021)

Tools and Technologies

Exclusivity

Tools and technology data is unavailable for one or both occupations.

Not all positions in these occupations will necessarily use all of the listed tools and technologies. The exclusivity rating is an indication of how unique the tool or technology is amongst all occupations. The maximum rating is 100. High scores indicate that only a small number of occupations use that tool or technology.

Source: Alaska Department of Labor and Workforce Development, Research and Analysis Section analysis of O*NET (Occupation Information Network) data.